The chronometer was compared immediately after the termination.

The beginning was lost through clouds. It became clear a short time after the commencement, and then the cusps and the limb of the Moon were sharply defined, and afterwards the limb became very tremulous; it was also very much jagged, as viewed in the larger telescope, resembling the teeth of a saw.

Observations of Occultations of Stars by the Moon; of Eclipses of the Sun and the Moon; and of Eclipses of Jupiter's Satellites; made at the Radcliffe Observatory, Oxford. Communicated by the Rev. R. Main.

Occultations of Stars by the Moon.

Day. 1863.	Star.	Phenomenon.	Observer.	Instrument.	Oxford M.T. h m s
Jan. 27	δ Arietis	Disap.	M.	Heliometer	5 3 52·7
	,,	,,	Q.	10-ft. telescope	5 3 53·5
	δ Arietis	Reap.	M.	Heliometer	6 21 6·2
Mar. 2	α Cancri	Disap.	L.	10-ft. telescope	11 42 12·6
April 29	*e* Leonis	Disap.	L.	,,	10 20 41·6
	e Leonis	Reap.	L.	,,	11 21 43·2

The initials M., Q., and L., are those of Mr. Main, Mr. Quirling, and Mr. Lucas.

Eclipse of the Sun, 1863, *May* 17.

Clouds prevented the beginning of the eclipse from being accurately observed; the time noted when they had cleared away being several seconds too late.

The end was, however, well seen by Mr. Lucas with the 46-inch achromatic telescope mounted on the leads of the Observatory outside the town.

The observed Oxford Mean Solar Time of the last contact was $7^h\,6^m\,32^s{\cdot}4$.

Eclipse of the Moon, 1863, *June* 1.

Mr. Lucas observed the beginning and ending of this eclipse with the 10-feet telescope, near the Heliometer Dome.

The Oxford Mean Solar Times are as follow:—

	h m s
First contact with the shadow ...	9 41 36
Beginning of total phase ...	10 46 40
Last contact with the shadow ...	13 0 57

Eclipses of Jupiter's Satellites.

Observed by Mr. Main with the telescope of the Heliometer:—

1863.		h	m	s	
April 1	Disappearance of 2d Satellite at	12	14	18·5	Oxford M.T.
28	Reappearance of 1st Satellite at	11	1	41·0	,,

M. Foucault's Apparatus for producing Uniform Motion.

(*Communicated by Lieut.-Col. R. Strange.*)

On a recent visit to Paris, M. Foucault was good enough to show me the new clock-work, just completed by the firm of Secretan, intended to drive the Great Equatoreal of the Paris Observatory.

M. Foucault has for some time been occupied with this subject, and has at length arrived at results with which he is himself perfectly satisfied, and which are also considered equally satisfactory by the authorities at the Observatory—the motion controlled by this apparatus being sensibly uniform under all possible changes in the motive force, and variations of friction and resistance.

I myself witnessed the following experiment:—The clock-work being detached from the Equatoreal (to which it had not yet been finally fitted), the full weight (about 58 lbs.) was applied; and the instrument being adjusted for rate, the revolving index was timed by a chronometer for about half an hour, during which period no sensible variation of rate of revolution could be detected. Half the driving weight was then removed without stopping or in any way readjusting the instrument, and the revolution of the index was again carefully observed, but no variation of the smallest perceptible fraction of a second could be detected.

M. Foucault assured me that the instrument had been subjected to far more severe and protracted trials than the above, and with the same results; and he affirms that, for all practical purposes, the problem of obtaining uniformity of rotation under considerable changes of resistance is absolutely solved.

I shall not attempt to describe from memory a machine of which a full account will shortly be published by its distinguished contriver, by whom this important invention has been patented in France and England. My object in mentioning the subject is to induce those who are either engaged in the